California Department of Food & Agriculture
Pierce's Disease Control Program
Pierce's Disease & Glassy-winged Sharpshooter Board

University of California
Agriculture and Natural Resources
Pierce's Disease Research Grants Program

Request for Pierce's Disease Research Proposals

- Issued December 5, 2005 -

Clarification About Progress Reports (added Feb. 3, 2006)

Please be advised that separate progress reports should not be included as part of your submission. Instead, use the sections entitled "Project History" and "Summary" to briefly discuss any previous work on your project. The progress reports mentioned in the RFP as being due April 14, 2006 are only for projects that were allocated 2 years of funding last year. If you are uncertain about the duration of your funding allocation last year, please contact the granting agency for assistance.

The Pierce's Disease and Glassy-winged Sharpshooter (PD/GWSS) Board of the California Department of Food and Agriculture (CDFA) and the University of California (UC) Pierce's Disease Research Grants Program are accepting proposals for research projects on Pierce's disease and its vectors. Projects are being sought which will contribute to finding a solution to this serious disease of grapevines, and must be relevant to California conditions. Proposals may be submitted for consideration by either program or both.

Research contracts will be awarded for one to two years, beginning with fiscal year 2006-07 (July 1, 2006 to June 30, 2007). For projects awarded two years of funding, receipt of the second year of funding will be contingent upon satisfactory progress being made during the first year.

For optimal coordination, a joint request for proposals is being issued by CDFA and UC, and reviews will be conducted through a common process; however, the two programs will make separate final determinations of awards.

General Information

- Submitters should be familiar with the report entitled "California Agricultural Research Priorities: Pierce's Disease," released in 2004 by the National Academies, National Research Council. Proposals should be consistent with the research recommendations in that report (see Attachments A & B).
- Funding preference will be given to projects providing results that expedite and/or directly yield applicable industry solutions.
- Researchers are responsible for obtaining all required governmental permits for working with live plant pests. For more information, please visit the following websites:
    - California permits: http://www.cdfa.ca.gov/phpps/permitsandregs.htm
    - Federal permits: http://www.aphis.usda.gov/ppq/permits/plantpest/index.html.
- Periodic progress reports, annual reports, and final reports will be required for each funded project. In addition, funded researchers are expected to attend and report on their progress at the annual Pierce's disease research symposium. (The proceedings from prior symposia are available at http://www.cdfa.ca.gov/phpps/pdcp/ResearchSymposium/gwSympIndex.htm

- Submitted proposals will not be returned. Confidential information and materials should not be submitted.
- This RFP document is available online at: http://www.cdfa.ca.gov/phpps/pdcp/PdGwssBrd/gwPdGwssIndex.htm

Timeline

- Request for Proposals Released.....December 5, 2005
- Proposals Due.....February 6, 2006
- Renewal Progress Reports Due (for 2-year Projects).....April 14, 2006
- Award Notification from CDFA .....May 23, 2006
- Award Notification from UC.....June 1, 2006
- Start Date for Projects.....July 1, 2006

Eligibility and Conflict of Interest

- For proposals to CDFA: Any individual or group affiliated with a university or governmental agency is eligible and encouraged to submit proposals.
- For proposals to UC: Proposals will be accepted from public land grant and non-land grant institutions, USDA-ARS, and other public institutions and private universities having appropriate research expertise.
- No more than three proposals may be submitted by a single laboratory.
- No proposal will be reviewed by anyone with a direct interest in the proposal.

Funding

- Awards from CDFA have averaged $82,000 per year.
- Awards from UC have averaged $99,703 per year.
- The CDFA Pierce's Disease Research Program is funded by a special assessment paid by the California winegrape industry.
- The UC Pierce's Disease Research Grants Program is funded by a special grant to the University of California from the USDA Cooperative State Research, Education, and Extension Service (CSREES). Availability of funds is contingent on inclusion of the special grant in the federal fiscal year 2006 budget for CSREES.

Format and Content of Research Proposals

See guidelines.

Review Process and Criteria

Proposals will be reviewed by ad hoc external reviewers and a joint program review panel. In addition, the PD/GWSS Board's Research Screening Committee and the University of California's Pierce's Disease Research Grants Program Guiding Committee will review and make recommendations for funding of proposals submitted to their respective programs. For the UC program, proposal budgets must be further reviewed and approved by CSREES before funds can be awarded.

Proposals will be reviewed and evaluated in the following areas (100 points possible):

- **Principal Investigators & Cooperators** - appropriate backgrounds, expertise, and experience; sufficiently capable; team is complete (10 points)
- **Objectives of Proposed Research/Relevance** - objectives clearly stated and justified; achievable; reasonable; relevant; worth achieving; will help solve California PD problem; not redundant/duplicative of work already done; consistent with National Academies report recommendations (25 points)

- **Experimental Procedures to Accomplish Objectives (Workplan)** - reasonable; feasible; complete; good scientific merit; valid; achievable; will meet goals & objectives; will generate targeted data & information (35 points)
- **Research Timetable for Project** - reasonable; achievable (10 points)
- **Research Capacity & Likelihood of Accomplishing Objectives** - adequate and appropriate resources; good likelihood of success (10 points)
- **Budget Request** - reasonable and appropriate; proper level of collaborative funding (10 points)

Due Date for Submissions

Proposals must be submitted no later than February 6, 2006. Proposals that are incomplete, late, or exceed the maximum page length (8 pages + title page, budget, current and pending support, biographies, recent PD/GWSS funding, and citations; 12-point Times or Times New Roman font; one-inch margins) will be eliminated from consideration.

Submit proposals online at http://www.pdgrants.ucdavis.edu. In addition, please send one signed hardcopy to the following addresses, postmarked no later than February 6, 2006:

- For submissions to the UC program: UC Statewide IPM Program, Robbins Annex, University of California, One Shields Ave., Davis, CA 95616-8621.
- For submissions to the CDFA program: Pierce's Disease Control Program, Attention Athar Tariq, California Department of Food and Agriculture, 1220 N Street, Room 325, Sacramento, CA 95814.

Clarification About Progress Reports (added Feb. 3, 2006)

Please be advised that separate progress reports should not be included as part of your submission. Instead, use the sections entitled "Project History" and "Summary" to briefly discuss any previous work on your project. The progress reports mentioned in the RFP as being due April 14, 2006 are only for projects that were allocated 2 years of funding last year. If you are uncertain about the duration of your funding allocation last year, please contact the granting agency for assistance.

Questions

If you have questions about the research programs, please contact one of the following:

For Submissions to UC

Melanie Caruso
Grants Assistant
UC Statewide IPM Program
mmcaruso@ucdavis.edu

Rick Roush
Director
UC Statewide IPM Program
rtroush@ucdavis.edu

For Submissions to CDFA

Athar Tariq
Associate Agricultural Biologist
Pierce's Disease Control Program
atariq@cdfa.ca.gov

Tom Esser
Special Assistant
Pierce's Disease Control Program
tesser@cdfa.ca.gov

For questions related to submitting online, please contact:

Melanie Caruso
Grants Assistant
UC Statewide IPM Program
mmcaruso@ucdavis.edu

Pierce's Disease Research Recommendations

(From: ***California Agricultural Research Priorities: Pierce's Disease***
National Academies, National Research Council, 2004)

NOTE: Presented here are the recommendations from the main body of the National Academies report. They are organized in the sequence and numbering system used in the report. Each recommendation's category is also indicated. The categories are based upon (a) the likelihood of research in that subject area contributing to successful PD/GWSS management, and (b) the sustainability of developed products and approaches. The four categories are:

- Category 1: The research option holds reasonable promise of generating successful tools for management of PD/GWSS, either in the short term or the long term.
- Category 2: The research approach looks promising, but, either because of insufficient data or because of inconclusive results, it is difficult to predict whether it will lead to successful applications for management.
- Category 3: The research can produce data and results that are promising for successful management of PD/GWSS, but because of its complexity and the technology required, it would be prohibitively expensive for any one funding source to manage.
- Category 4: The research approach does not show promise, even in the long term, for PD/GWSS management.

Chapter 2: Developing Priorities for Research

Recommendation 2.1: To ensure scientific rigor and enhance the coordination of the PD/GWSS research program, participating research sponsors should consolidate the processes for proposal solicitation and review.

Recommendation 2.2: Research priorities should be developed according to their ability to meet two criteria: the predicted ability of the approach to contribute to PD/GWSS management and its sustainability. The committee recommends a balance among short-, medium-, and long-term research projects to ensure the development of sustainable management approaches is achieved.

Recommendation 2.3: An economic analysis including a study of environmental impacts should be conducted for *all* potential management strategies and outcomes. (Category 1)

Recommendation 2.4: The long term research agenda should include economic analyses of policy regulations, incentives, and institutions to limit introduction and movement of PD vectors. (Category 2)

Chapter 3: Host-Vector Interaction

Recommendation 3.1: Studies that provide more information about sharpshooter feeding, host-finding behavior, host plant preferences, and the factors that influence reproductive success and natural-enemy-caused mortality are needed. The potential effects of *Xf* infection on sharpshooter behavior and performance should be included in those studies. These factors must be examined with statistical rigor so that the results are reliable. (Category 1)

Recommendation 3.2: All the modern chemical, molecular, ecological, and statistical tools available to scientists should be used to identify mechanistic bases of grapevine resistance to xylem-feeding leafhoppers. Studies should be done in the ecosystem and consider multitrophic interactions among plants, insect pests, and natural enemies (predators and parasites), and they should include both insect- and *Xf*-induced changes in plant quality. (Category 2)

Recommendation 3.3: Host-plant resistance should be emphasized as a component of ecologically based insect management strategies in the grapevine-sharpshooter-*Xf* system. Methods for manipulating grapevine resistance should be developed for experimental use to identify key resistance traits and with an eye toward eventual deployment. The methods should allow work with genetically transformed plant material, use of chemical or other elicitors, and cultivation practices. (Category 2)

Recommendation 3.4: Detailed, quantitative studies should examine leafhopper performance (survivorship, fecundity, development time) on and preference for a broad range of potential ground cover crops. (Category 2)

Recommendation 3.5: The feasibility of using carefully selected cover crops in vineyards to reduce sharpshooter colonization to grape should be investigated. (Category 2)

Recommendation 3.6: Potential ground cover crops should be screened for the capacity to develop epidemiologically significant populations of *Xf.* (Category 2)

Recommendation 3.7: Detailed, quantitative studies should examine leafhopper preference for potential host plants in the context of natural assemblages of hosts in the field. Studies of leafhopper performance on a broad range of potential host plants are essential to elucidate host ranges. (Category 2)

Recommendation 3.8: The plant-to-plant movement of GWSS at multiple scales should be examined throughout the year to identify long-range seasonal and “trivial” movements that lead to disease spread. (Category 2)

Recommendation 3.9: Sharpshooter host plants should be screened for their capacity to develop epidemiologically significant populations of *Xf* and examined for effective transmission rates from host to grape. (Category 2)

Recommendation 3.10: After the epidemiologically important noncrop host plants of the vectors are identified, the ecological and socioeconomic barriers to removal of those plants from areas that influence disease prevalence in grapes should be explored. (Category 2)

Recommendation 3.11: Basic and applied research should establish protocols for the effective selection of natural enemies, develop strategies to increase the success of inoculative releases of parasitoids, and rigorously evaluate the effectiveness of released natural enemies. (Category 2)

Recommendation 3.12: Support for classical biological control (inoculative releases) is preferred over augmentation if inoculative releases result in self-sustaining populations and can be shown to be less costly than augmentation. (Category 2)

Recommendation 3.13: Research should assess the economic feasibility of biological control tactics and strategies. (Category 2)

Recommendation 3.14: Biological control tactics within EBPM schemes should be evaluated within the context of working economic thresholds. (Category 2)

Recommendation 3.15: Research on the use of biological control agents (predators and parasitoids) should be a priority in commercial vineyards where there is a minimal use of insecticides, the use of selective insecticides that are nontoxic to natural enemies are used, or where the timing of insecticide use is such that mortality to natural enemies is minimal. Similarly, research should be supported that advances the use of biological control agents in areas and habitats where insecticide use can be severely restricted or eliminated. Areas for study could include riparian habitats, watershed areas, wetlands, and urban and suburban green areas. (Category 2)

Recommendation 3.16: Control strategies should be pursued that limit the use of insecticides to sustainable formulations that are minimally incompatible with ecologically based approaches to pest management. A premium should be set on minimizing the negative consequences of pesticide use for human health and environmental quality.

Recommendation 3.17: Research should assess the economic feasibility of specific chemical control strategies and develop decision and cost models to guide growers in setting up chemical control methods for GWSS. (Category 1)

Chapter 4: Plant-Pathogen Interaction

Recommendation 4.1: A systematic analysis of *Xf* pathogenicity should be accomplished with a combination of biochemical, genetic, and genomic analyses. Such research lends itself to a collaborative approach. (Category 2)

Recommendation 4.2: As with the pathogen, systematic and global approaches to address host plant responses (disease or defense) to pathogen invasion are essential to identify important plant defense factors. However, until the sequence of the grape genome is available and until other tools, such as grapevine mutants for dissection of defense responses, are available, that approach should be viewed as a long-term and expensive effort. (Category 3)

Recommendation 4.3: Host plant resistance to *Xf*, whether quantitative or qualitative, is important to long-term management of the disease. Immediate emphasis should be placed on identification and characterization of the genetic basis for resistance to *Xf* in host plants. Characterization of the genetic loci and biochemical mechanisms responsible for resistance will facilitate classical approaches (which use molecular markers) and transgenic breeding to create *Xf*-resistant plants. (Category 2)

Recommendation 4.4: Improvements in tissue transformation systems and in the ability to regenerate plants from transformed tissue have made transgenic technologies increasingly feasible, although the availability of genes of known function that could be introduced to target desired effects is limited. In the long-term, however, transgenic technology could hold promise for improving resistance to *Xf*. (Category 2)

Recommendation 4.5: Long-term projects should focus on identification of pathogen targets for existing or novel chemical control approaches or for the means to stimulate or alter host defense response pathways. (Category 2)

Recommendation 4.6: Research should determine the efficacy and the economic and environmental feasibility of manipulating alternative hosts for PD management. (Category 2)

Chapter 5: Vector-Pathogen Interaction

Recommendation 5.1: Research should be done on the transmission biology of the disease system, including acquisition from and inoculation to alternative hosts and acquisition from and inoculation to dormant grapevines. (Category 2)

Recommendation 5.2: Research should be done on the determinants of transmission efficiency, including attachment and reproduction of *Xf* in GWSS. (Category 2)

Recommendation 5.3: A subset of studies of the vector should explore the effects of *Xf* on vector survivorship, fecundity, and population growth rates. (Category 2)

Recommendation 5-4: A subset of studies of the vector should explore the effects of *Xf* on vector behavior, including movement and attraction to infected hosts. (Category 2)

Key Recommendations

(From: ***California Agricultural Research Priorities: Pierce's Disease***
National Academies, National Research Council, 2004)

NOTE: Presented here are the recommendations (identified as "Key Recommendations") from the executive summary of the National Academies report. They are organized in the sequence followed in the report. Each recommendation's category is also indicated. The categories are based upon (a) the likelihood of research in that subject area contributing to successful PD/GWSS management, and (b) the sustainability of developed products and approaches. The four categories are:

- Category 1: The research option holds reasonable promise of generating successful tools for management of PD/GWSS, either in the short term or the long term.
- Category 2: The research approach looks promising, but, either because of insufficient data or because of inconclusive results, it is difficult to predict whether it will lead to successful applications for management.
- Category 3: The research can produce data and results that are promising for successful management of PD/GWSS, but because of its complexity and the technology required, it would be prohibitively expensive for any one funding source to manage.
- Category 4: The research approach does not show promise, even in the long term, for PD/GWSS management.

1. **Interactions of Host, Pathogen, and Vector** -- the committee makes the following recommendations for research:
    a. Determine the genetic, biochemical, and physiologic basis for *Xf* virulence, pathogenicity, transmission, and survival. (Category 2)
    b. Determine genetic, biochemical, and physiologic basis for GWSS herbivory and disease vectoring. (Category 2)
    c. Determine the genetic, biochemical, and physiologic basis for host plant factors that influence attraction, repulsion, survival, or inhibition of GWSS or *Xf*. (Category 2)
2. **Host Plant Resistance to Pathogen and Pest** -- the committee recommends the following research:
    a. Determine the genetic and mechanistic bases for grapevine resistance to *Xf* and GWSS. (Category 2)
    b. Develop and improve methods for manipulating grapevine resistance to *Xf* and GWSS. (Category 2)
3. **Biological Control** -- the committee makes the following recommendations:
    a. Research is needed to advance the use of classical biological control (predators and parasitoids) of the insect. (Category 2)
        i. Establishment of protocols for the effective selection of natural enemies.
        ii. Development of strategies that will increase the success of inoculative releases of parasitoids.
        iii. Rigorous evaluation of the effectiveness of the released natural enemies.
4. **Vegetation Management** -- the committee provides the following recommendations:
    a. Research should advance the use of vegetation management to reduce populations of GWSS and and *Xf*. (Category 2)
5. **Chemical Control** -- research on chemicals should focus on the following areas: (Category 4)
    a. Identify and develop more efficient means of delivery of the chemical to the target.
    b. Identify novel pathogen targets for which highly specific chemicals can be identified or developed.
    c. Determine the social and environmental consequences of using these compounds.
    d. Conduct an economic assessment of insecticide effectiveness within an ecologically based pest management scheme.

6. <u>Economic Feasibility</u> -- the committee recommends examples of economic research projects needed.

a. Assess the economic feasibility of specific biological and chemical control methods and strategies. (Category 1)

b. An economic analysis, including environmental impacts, should be conducted for all potential management strategies and outcomes. (Category 1)

c. The long-term research agenda should include economic analyses of policy regulations, incentives, and institutions to limit introduction and movement of PD vectors. (Category 2)

RESEARCH PROPOSAL FORMAT GUIDELINES

Proposals must not exceed the maximum page length (8 pages + title page, budget, current and pending support, biographies, recent PD/GWSS funding, and citations). Please use 12-point Times or Times New Roman font, and one-inch margins. Submit online at http://www.pdgrants.ucdavis.edu. In addition, please send one signed hardcopy to the following addresses, postmarked no later than February 6, 2006:

- For submissions to the UC program: UC Statewide IPM Program, Robbins Annex, University of California, One Shields Ave., Davis, CA 95616-8621.
- For submissions to the CDFA program: Pierce's Disease Control Program, Attention Athar Tariq, California Department of Food and Agriculture, 1220 N Street, Room 325, Sacramento, CA 95814.

Proposals not meeting requirements will not be forwarded for review.

Project Title

Principal Investigator (PI)
Indicate the contact PI for correspondence and questions. Include institutional affiliation, address, phone number, and e-mail address.

Co-Principal Investigators (Co-PIs)
Include institutional affiliations, addresses, phone numbers, and e-mail addresses.

Cooperators
Indicate the roles of each cooperator, and make sure they are aware of their proposed participation.

Program(s) Submitted To
Indicate whether you are submitting the proposal to the CDFA or the UC program, or both.

Research Area
Indicate, from the following list, the one primary research area in which the project falls, as well as any secondary areas:

- Crop Biology
- Disease Epidemiology
- Pathogen Biology & Ecology
- Pathogen & Disease Management
- Vector Biology & Ecology
- Vector Management

Expected Duration of Project
Indicate number of years for which funding is requested (two years maximum).

Budget Summary
Supply the budget total for each year requested.

Keywords
Supply important keywords that characterize this project.

Project History
Indicate if this is a new or continuing project. If a continuing project, indicate when it began, the number of years of activity, and the sources of funding. Also, indicate how this project relates to other past, current, and anticipated future research projects.

Summary
Include a summary of this project (approximately 100 words).

Objectives of Proposed Research
Present the objectives in a numbered list, and indicate their relative priorities.

Justification and Importance of Proposed Research
Describe how the overall project and each objective address the fundamental goal of solving the Pierce's disease problem in California. Cite relevant literature. Describe the project's relevance relative to the research recommendations contained within the National Academies, National Research Council's report entitled "California Agricultural Research Priorities: Pierce's Disease," released in 2004.

Experimental Procedures to Accomplish Objectives
Discuss the experimental procedures for each objective. Discuss plot design, statistical analyses, methods to be used, and parameters of data collection, including sampling methods. Cite relevant literature.

Research Timetable
Outline the timeline for the research project, indicating start dates, periods of activity, and completion dates for each activity and objective, and for the entire project.

Research Capacity and Likelihood of Accomplishing Objectives
Summarize how the principal investigators' and cooperators' research capacities (i.e., dedicated financial sources, laboratory and field resources, and human resources) and previous work increase the likelihood for accomplishing the stated objectives. Summarize in one page or less your understanding of the present state of knowledge on PD/GWSS research as it relates to your stated objectives and how this present outlook improves the likelihood of accomplishing your stated objectives.

Intellectual Property
Describe any intellectual property, other than copyrighted publications, that this project is likely to produce, and how it will be handled.

Current and Pending Support
Use the following format to identify support for ALL OF YOUR CURRENT AND PENDING PROJECTS.

- Provide information on active and pending projects, including this proposal.
- Include all current projects to which PI(s) and other senior personnel have committed a portion of their time, whether or not salary for the person involved is included in the budgets of the various projects.
- Provide similar information for all proposed work which is being considered by, or which will be submitted in the near future to, other possible sponsors.
- Where listed grant support overlaps or complements the proposal, the connection and/or overlap between existing and/or pending support and the proposal must be explained. How will the total support package tie together?
- If no other grant support, state "NONE."

Proposals failing to follow these requirements will not be forwarded to review panels for review.

Name	Supporting agency and project number	Total budget	Effective and expiration dates	Percent of time committed	Project title
(List PI #1 first)	Current Pending				

Recent Pierce's Disease or Glassy-winged Sharpshooter Research Funding
List all past Pierce's disease or glassy-winged sharpshooter funding, obtained from any source by each PI over the past five years.

Biographical Sketches
Include a brief biographical sketch for each PI. List 15 of his/her most recent publications (not just those relating to the current project). Maximum of 2 pages per PI, excluding the list of publications.

Budget Request
Present the budget for the research project using the appropriate format/form, as indicated below.

If you are submitting your proposal for consideration by both the CDFA and UC programs, you should include all budget displays and other information in your main proposal file and submit just once. It will be distributed to both programs. (added Feb. 3, 2006 for clarification)

For submissions to the UC Pierce's Disease Research Grants Program
Prepare a budget page using the form CSREES 2004 and a detailed budget narrative, following the instructions for the form (see http://www.ipm.ucdavis.edu/FORMS/ for forms and instructions). Although funding is approved and transferred on a yearly basis, note your needs for the length of the proposed project (maximum of two years). Note that:

- No indirect costs may be charged on these funds.
- All budget categories for which support is requested must be individually listed (with costs) in the same order as the budget and justified in a budget narrative.
- "Nonexpendable Equipment" and "All Other Direct Costs" categories must be itemized and the cost per item must be provided.

For submissions to the CDFA Pierce's Disease and Glassy-winged Sharpshooter Board
Present the budget using the following form. Do not put amounts in shaded areas. Add a narrative explanation and justification of budget items.

	FY 2006-07		FY 2007-08	
	% of Time on Project	Amount ($)	% of Time on Project	Amount ($)
Personnel				
Professional				
SRA/Tech				
Lab Assistant				
Other				
Employee Benefits				
SUBTOTAL (Personnel + Benefits)				
Supplies and Expenses				
Equipment				
Travel				
Computer Time				
Other				
Indirect Costs*				
SUBTOTAL (Supplies, Expenses, Equipment, etc.)				

TOTAL REQUEST				

(*Indirect costs cannot be covered by CDFA.)

Literature Cited

Additional Forms Required

For submissions to the UC program only, the following CSREES certifications may be required (see http://wwwipm.ucdavis.edu/FORMS/ for copies):

Recombinant DNA or RNA Research

All key personnel identified in a proposal and all endorsing officials of the proposing organization are required to comply with the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules." For proposals recommended for funding, Institutional Biosafety Committee approval is required before funds will be released. Complete form CSREES-2008 (section A).

Animal Care in Research and Human Subjects Research

Form CSREES-2008 (section B) will be required if a project involves the use of living vertebrate animals for experimental purposes. For proposals recommended for funding involving the use of live vertebrate animals, Institutional Animal Care and Use Committee approval is required before funds will be released.

CSREES-2008 (section C) will be required if a project requires the use of human subjects. For proposals recommended for funding involving use of human subjects, Institutional Committee approval is required before funds will be released.

Other Required Certifications

Institutions (other than the University of California) receiving awards must provide required certifications set forth in 7 CFR Part-3017, regarding Debarment and Suspension and Drug-Free Workplace (AD1048).

Form CSREES-2006 is required to indicate the candidate's opinion of whether the project may require an Environmental Assessment and Environmental Impact Statement, as outlined in 7 CFR Part 3407.